

WHAT IS CLAIMED IS:

1. A two-dimensional active-matrix type light modulation device comprising:
- a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;
 - a plurality of counter electrodes;
 - a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and
 - a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes.

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2. The two-dimensional active-matrix type light modulation device as set forth in claim 1, wherein said drive circuit writes data to said ferroelectric gate field-effect transistors in order of a row.

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- 2 ~~3~~. The two-dimensional active-matrix type light modulation device as set forth in claim ~~1~~ or ~~2~~, wherein said drive circuit writes data to all of said pixels and then applies a voltage for driving said light

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modulating layer between said counter electrode and said pixel electrode in common for all pixels.

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4. The two-dimensional active-matrix type light modulation device as set forth in any one of claims 1 through 3, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field-effect transistor to a first polarization state and then writes data in accordance with input of data so that said first polarization state is changed to a second polarization state or so that said first polarization state is held.

5. The two-dimensional active-matrix type light modulation device as set forth in any one of claims 1 through 4, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor.

6. The two-dimensional active-matrix type light modulation device as set forth in any one of claims 1 through 5, wherein said drive circuit performs modulation by binary static drive.

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7. A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes.

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8. The two-dimensional active-matrix type light-emitting device as set forth in claim 7, wherein said drive circuit writes data to said ferroelectric gate field-effect transistors in order of a row.

B 19 9. The two-dimensional active-matrix type light-emitting device as set forth in claim 7 or 8, wherein said drive circuit writes data to all of said pixels and then allows a current for driving said light-emitting layer to pass through said counter electrode

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and said pixel electrode in common for all pixels.

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10. The two-dimensional active-matrix type light-emitting device as set forth in any one of claims 7 through 9, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field-effect transistor to a first polarization state and then writes data in accordance with input of data so that said first polarization state is changed to a second polarization state or so that said first polarization state is held.

11. The two-dimensional active-matrix type light-emitting device as set forth in any one of claims 7 through 10, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor.

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